

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (withdrawn) A fuel reforming apparatus comprising at least one nonthermal plasma reactor for producing a carbon-monoxide free reformed fuel gas comprising hydrogen.

2. (withdrawn) The fuel reforming apparatus according to claim 1 wherein said nonthermal plasma reactor is a converter for converting carbon monoxide present in a reformed fuel gas prior to converting to said carbon-monoxide free reformed fuel gas.

3. (withdrawn) The fuel reforming apparatus according to claim 1 wherein said nonthermal plasma reactor further comprises a capacitive nonthermal plasma discharge chamber having a flow path for a vapor, an inductive element electrically coupled to said discharge chamber; and a power supply element for supplying intermittent energizing pulses to said discharge chamber and said inductive element, said discharge chamber and said inductive element being connected to respond to said energizing pulses by acting as an LC resonant circuit.

4. (withdrawn) The fuel reforming apparatus according to claim 1 wherein said reformed fuel gas is produced by reforming a fuel comprising a substance having

bonded atoms of hydrogen.

5. (withdrawn) The fuel reforming apparatus according to claim 1 wherein said nonthermal plasma reactor comprises a microwave-powered nonthermal plasma reactor.

6. (withdrawn) The fuel reforming apparatus according to claim 4 wherein said substance comprises alcohols, aldehydes, ketones, hydrocarbons or ammonia.

7. (currently amended) A method for producing carbon monoxide-free reformed fuel gas ~~comprising consisting essentially of~~ reacting a fuel gas using nonthermal plasma in at least one nonthermal plasma reactor ~~to produce said carbon monoxide-free reformed fuel gas in said at least one nonthermal plasma reactor.~~

8. (currently amended) The method as claimed in claim 7, wherein said reacting a fuel gas using nonthermal plasma comprises using nonthermal plasma to~~comprising the step of converting~~ carbon monoxide from ~~said a~~ reformed fuel gas in said nonthermal plasma reactor.

9. (currently amended) The method as claimed in claim 7, wherein said reacting a fuel gas using nonthermal plasma comprises, comprising the steps of, using nonthermal plasma, to reforming a fuel gas and to converting carbon monoxide from said reformed fuel gas in said nonthermal plasma reactor.

10. (original) The method as claimed in claim 7 wherein a reformed fuel gas is

produced by reforming a fuel comprising a substance having bonded atoms of hydrogen.

11. (original) The method as claimed in claim 10 wherein said substance comprises methanol.

12. (withdrawn) The method as claimed in claim 7 wherein said nonthermal plasma reactor comprises a microwave-powered nonthermal plasma reactor.

13. (withdrawn) A fuel cell assembly comprising a reformer for reforming a fuel gas, a converter for converting carbon monoxide present in said reformed fuel gas and a hydrogen-oxygen fuel cell where the carbon-monoxide free reformed fuel gas combines with air to produce electricity and water.

14. (withdrawn) The fuel cell assembly according to claim 13 wherein said converter for converting carbon monoxide in said reformed fuel gas is a nonthermal plasma reactor.

15. (withdrawn) The fuel reforming apparatus according to claim 1 wherein said nonthermal plasma reactor reforms a fuel gas and converts carbon monoxide in said reformed fuel gas.

16. (withdrawn) The fuel reforming apparatus according to claim 1 comprising a vaporizer for producing a fuel gas and wherein said nonthermal plasma reactor reforms said fuel gas and converts carbon monoxide in the reformed fuel gas.

17. (withdrawn) The fuel reforming apparatus according to claim 16 wherein said nonthermal plasma reactor comprises: an inlet conduit for directing the vaporized fuel; a discharge chamber connected to said inlet conduit; and an outlet conduit connected to said discharge chamber.

18. (withdrawn) The fuel reforming apparatus according to claim 17 wherein said nonthermal plasma reformer further comprises: an inductive element electrically coupled to said discharge chamber; and a power supply element for supplying intermittent energizing pulses to said discharge chamber.

19. (withdrawn) The fuel reforming apparatus according to claim 18 wherein said discharge chamber and said inductive element are connected to respond to said energizing pulses by acting as an LC resonant circuit.

20. (withdrawn) The fuel reforming apparatus according to claim 19 wherein said nonthermal plasma reactor further comprises: a high voltage modulator or pulser.

21. (withdrawn) The fuel reforming apparatus according to claim 20 wherein when said modulator or pulser is off, no energy can be drawn from said power supply element to produce nonthermal plasma discharge.

22. (withdrawn) The fuel reforming apparatus according to claim 18 wherein said LC resonant circuit has a resonant frequency, said resonant frequency having a resonant period, said nonthermal plasma discharge being produced during a one-half

cycle of said resonant period.

23. (withdrawn) The fuel reforming apparatus according to claim 22 wherein said LC resonant circuit is energized by a high-voltage pulse having a DC voltage of about 15 kV.

24. (withdrawn) The fuel reforming apparatus according to claim 15 wherein said fluid comprises alcohols, aldehydes, ketones, hydrocarbons or ammonia.

25. (withdrawn) The fuel reforming apparatus according to claim 16 wherein said vaporizer comprises a porous ceramic disk.

26. ~~(canceled) The method for producing a carbon monoxide free hydrogen gas from a fuel according to claim 7 wherein the steps of reforming said fuel and converting said carbon monoxide are carried out in a nonthermal plasma reactor.~~

27. (currently amended) The method for producing a carbon monoxide-free hydrogen gas from a fuel according to claim 7-9, wherein said reacting a fuel gas using nonthermal plasma further comprises ~~comprising the steps of evaporating a fuel to produce the fuel gas that is reformed and converted and reforming said fuel gas and converting said carbon monoxide~~ in said nonthermal plasma reactor.

28. (withdrawn) A fuel cell assembly according to claim 13 comprising a nonthermal plasma reactor for reforming said fuel gas and converting said carbon monoxide, and said hydrogen-oxygen fuel cell where the carbon-monoxide free

reformed fuel gas combines with air to produce electricity and water.

29. (withdrawn) A fuel cell assembly according to claim 13 comprising a vaporizer for evaporating a fuel and a nonthermal plasma reactor for reforming said fuel gas and converting said carbon monoxide, and said hydrogen-oxygen fuel cell where the carbon-monoxide free reformed fuel gas combines with air to produce electricity and water.

30. (currently amended) A method for producing carbon monoxide-free reformed fuel gas comprising producing a gas stream to be supplied to a fuel cell with no further processing by~~reacting a fuel gas in at least one~~using nonthermal plasma reactor to convert carbon monoxide from ~~said a~~ reformed fuel gas in ~~said a~~ nonthermal plasma reactor.